LED INDUSTRY KIT

WU-M-564

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WU-M-564

Typical Applications

Built-in luminaires/general illumination

- Industry lighting for:
  - Production halls
  - Warehouses
- Lighting for sports facilities
- Lighting for department stores

LED Industry Kit

- **LONG SERVICE LIFE TIME: > 60,000 H (L80/B10)**
- **HIGHLY EFFICIENT: UP TO 181 LM/W AT T_P = 50 °C**
- **FLEXIBLE LIGHT DISTRIBUTION BY THREE DIFFERENT OPTICS**

LIGHTING SOLUTIONS

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LED Industry Kit

Technical Notes

- LED built-in module for integration into luminaires
- Dimensions: 289x55 mm
- Driving current: 350 mA / 500 mA / 700 mA / 1050 mA
- On-board push terminal system
- Colour tolerance: 3-step MacAdam
- Beam angle: 120°

Electrical Characteristics

at t_p = 50 °C
Temperature coefficient: –61.89 mV/K

Type	Voltage DC (V)												Power consumption (W)											
	350 mA			500 mA			700 mA			1050 mA			350 mA			500 mA			700 mA			1050 mA		
	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	min.	typ.	max.
WU-M-564-G-HB	55.9	59.6	62.5	57.3	61.0	63.9	59.2	62.8	65.8	62.3	65.9	68.9	19.6	20.9	21.9	28.7	30.5	32.0	41.4	44.0	46.1	65.4	69.2	72.3

Use of external LED constant current driver required.

Maximum Ratings

Exceeding the maximum ratings can lead to reduction of service life or destruction of the module.

Type	Operating current	Operation temperature range at t_c point		Storage temperature range		Max. allowed repetitive peak current
	mA	°C min.	°C max.	°C min.	°C max.	mA
WU-M-564	350	–20	+85	–20	+85	2600
	500	–20	+85	–20	+85	2200
	700	–20	+85	–20	+85	1700
	1050	–20	+85	–20	+85	1600

Operating Life

in hours at measured temperature at t_p point

	350 mA			500 mA			700 mA			1050 mA		
	40 °C	50 °C	85 °C	40 °C	50 °C	85 °C	40 °C	50 °C	85 °C	40 °C	50 °C	85 °C
L90/B10	> 60,000	> 60,000	28,000	> 60,000	> 60,000	27,000	> 60,000	> 60,000	26,000	52,000	52,000	22,000
L80/B10	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000
L70/B10	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000	> 60,000

Optical Characteristics

at t_p = 50 °C; without secondary optics
CRI R_a: min. 80 / typ. 85

Type	**Ref. No.**	Colour	Correlated colour temperature	Typ. luminous flux* (lm) and efficiency* (lm/W) at								Photometric code
				350 mA		500 mA		700 mA		1050 mA		
			K	lm	lm/W	lm	lm/W	lm	lm/W	lm	lm/W	
WU-M-564-G-HB-830	**564936**	warm white	3000	3530	169	4980	163	6855	156	9970	144	830/349
WU-M-564-G-HB-840	**564937**	neutral white	4000	3710	178	5235	172	7205	164	10485	152	840/349
WU-M-564-G-HB-850	**564938**	cool white	5000	3775	181	5330	175	7335	167	10670	154	850/349

* Production tolerance of luminous flux and efficiency: ±10% | Assembly option with NTC interface on-board (available on request)

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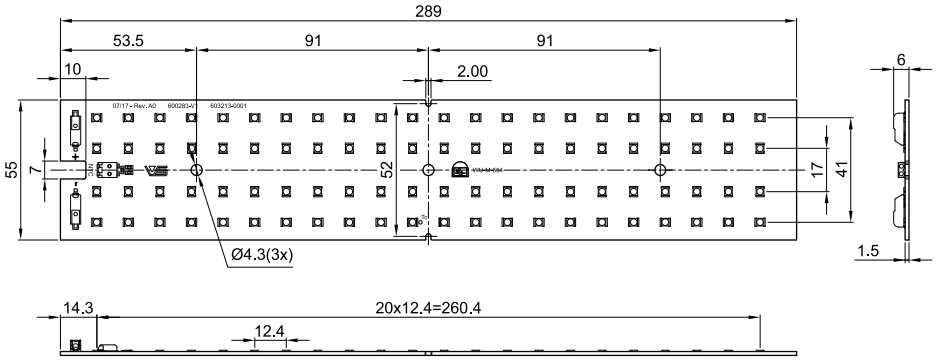
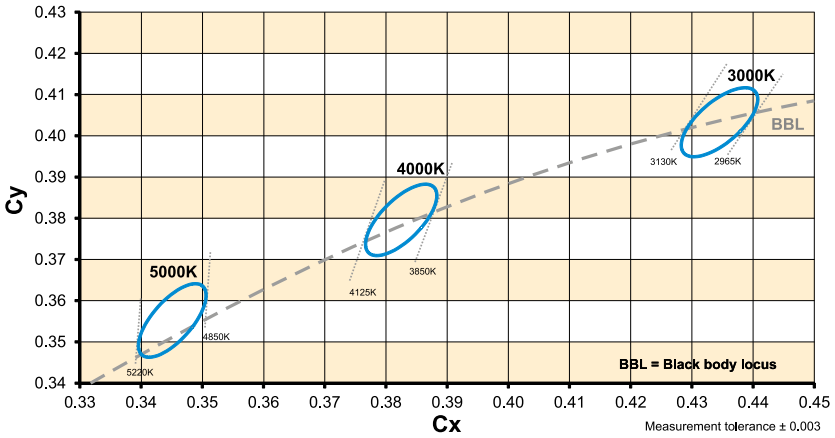
LED Industry Kit

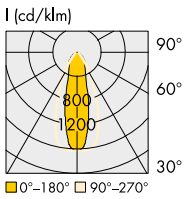
Mechanical Dimensions SMD PCB



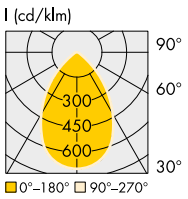
Bins



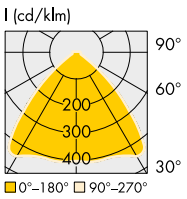
Typical Light Distribution Curves



High Rack



Wide 60°



Wide 90°

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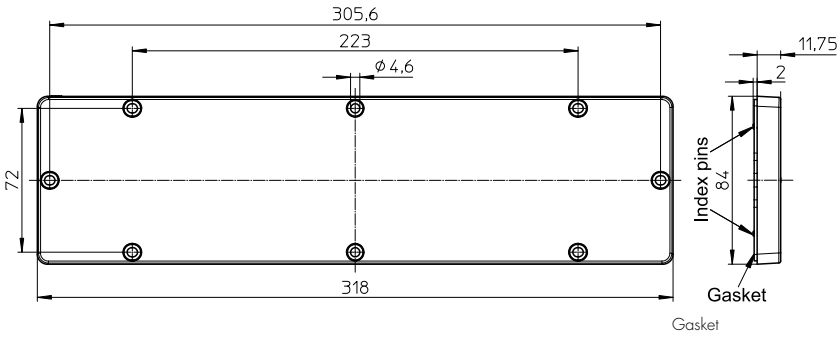
LED Industry Kit

Technical Notes for Optics

- Brilliant light distribution and surfaces
- Highly efficient up to 92%
- Material: PC, transparent
- Suitable for luminaires with impact rating IK08/5J
- Degree of protection: IP65 (incl. silicone gasket)
- Dimensions (LxWxH): 318x84x11.75 mm
- Max. allowed temperature: 100 °C
- Fixing holes for M4 screws

Light distribution	Optics type	**Ref. No.**	Efficiency %	Weight g
Wide 60°	97600	**565228**	92	190
Wide 90°	97601	**565229**	92	178
High Rack	97602	**565230**	92	173

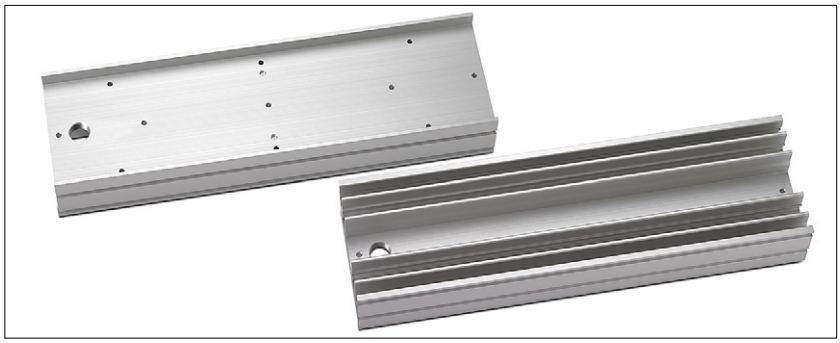
Material PMMA on request



Gasket

Heat Sink for LED Industry Kit

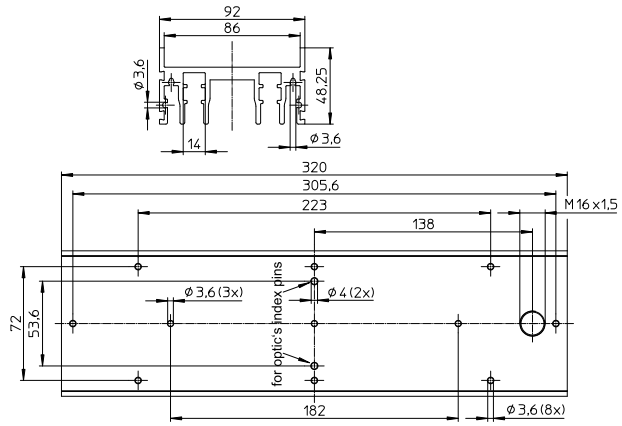
Under no circumstances may heat sinks ever be covered by insulation material or similar. Air ventilation must be ensured.



Technical Notes for Heat Sink

Material: aluminium EN AW-6060 (AlMgSi 0,5) T66 anodized
Dimensions (LxWxH): 320x92x48.25 mm
Fixing holes for PCB: for self-tapping screws M4, screw length: 6 mm
Fixing holes for optics: for self-tapping screws M4, screw length: 12 mm
Centrally located cable bushing with an M16x1,5 thread for an IP65 cable gland
Heat sink optimized for operating currents up to 700 mA at max. ambient temperature t_a 50 °C
Weight: 1050 g
Packaging unit: 1 pcs.

Ref. No.: 566638



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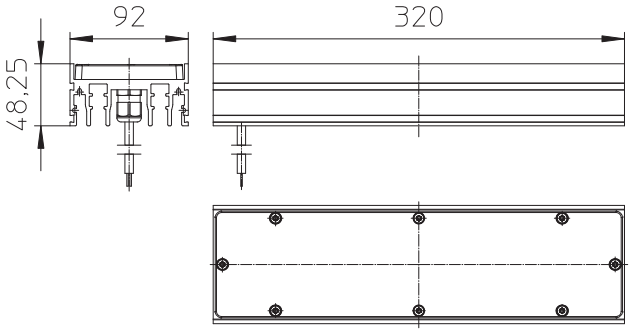
LED Industry Kit – Assembly Unit



Technical Notes for assembled Industry Kit

Equipped with PCB WU-M-564, optics with silicone gasket and heat sink with cable thread fitting ST M16x1.5 mm (max. tightening torque: 3 Nm) and connected leads 2x1 mm², usable lead length: 320 mm
Dimensions (LxWxH): 320x92x48.25 mm
Fixation: via a groove running on both sides
Degree of protection: IP65
Weight: 1350 g
Packaging unit: 1 pcs.

Light distribution	Optics type	**Ref. No.**	Correlated colour temperature (K)
Wide 60°	97610	**566818**	3000
Wide 60°	97610	**566839**	4000
Wide 60°	97610	**566840**	5000
Wide 90°	97611	**566841**	3000
Wide 90°	97611	**566842**	4000
Wide 90°	97611	**566843**	5000
High Rack	97612	**566844**	3000
High Rack	97612	**566845**	4000
High Rack	97612	**566846**	5000

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LED Industry Kit

Assembly and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. The LED modules are designed for operation within a casing or luminaire. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advice must be observed; non-observance can result in the destruction of the LED assembly modules, fire and/or other hazards.

- Consider safety regulations acc. EN 60598 in the luminaire design, especially when the operating LED driver is not galvanic isolated.
  - In mode of operation regard to sufficient isolation.
  - Live parts must not be touched in operation mode. Danger in life!!!

- ESD (electrostatic discharge) protection measures must be observed when handling and installing the LED modules. See VS's application notes on ESD protection.
- Adequate anti-static electricity measures, including the use of conductive shoes, ionizers, work bench grounding, wrist straps, flooring and stools sould be used.
- LED assembly modules must not be subjected to any undue mechanical stress, e. g.:
  - do not treat as bulk cargo
  - avoid shear and compressive forces during handling and installation
  - do not damage circuit paths
  - avoid any pressure on the light emitting surface
- Safe operation only possible by the use of external constant current sources ($I_{max.}$ see table "Electrical Characteristics").
- Operation only with power supply units that feature the following protection:
  - Short-circuit protection
  - Overload protection
  - Overheating protection
- The module can be fixed with M4 screws. Fixation only with flat or cylinder head screws (M4) (no countersank screws)
  Max. torque: 1.2 Nm (M4)
- Please ensure the correct polarity of the leads prior to commissioning. Reversed polarity can destroy the modules.
- Safety regulations acc. to EN 60598 (or further standards) has to be observed if the maximum output voltage exceed the permitted touchable value.
- Measurement tolerances:
  - luminous flux: ± 7%
  - voltage: ± 3%
  - CRI: ± 1
- The following points must be observed when connecting LED modules in parallel:
  - All LED strings that are wired in parallel must contain the same number of LEDs (symmetrical loading).
  - Owing to differing forward biases, there can be a difference of up to 10% in brightness between modules connected in parallel.
- To ensure problem-free operation, the specified maximum temperature at the t_p point (see "Operating Life") must be observed (and measured in accordance with EN 60598-1). To satisfy this point, it may be necessary to put measures in place to ensure any heat is dissipated from the PCB to the environment.
- In the event of outdoor applications or applications in damp locations, care must be taken to protect LED assembly modules against humidity, splashes and jets of water. Any corrosion damage resulting from humidity or contact with condensation will not be recognised as a defect or manufacturing fault. LED assembly modules are not specially protected against foreign bodies or dust. Depending on the type of application, further protection must be ensured to prevent dust and foreign bodies from entering.
- Due to the manufacturing process, the PCBs of the LED assembly modules can have sharp edges and corners. Care must therefore be taken during handling and installation to avoid injury.
- For optimal load of used constant current driver the modules can only be connected in series. The quantity of LED modules is limited by the sum of forward voltage and the capacity of used constant current driver. Safety regulations acc. to EN 60598 has to be observed if the sum of forward voltage exceed the permitted touchable value.
- Operating LED modules in the presence of certain chemical substances or in chemically enriched (aggressive) environments can impair module functionality or even cause total module failure. Detailed information can be found in our "Chemical Incompatibility" PDF on our website www.vossloh-schwabe.com
- The photobiological safety of the LED modules must be classified into risk groups in accordance with EN 62471
  Rating in accordance with IEC / TR 62778: risk group 1

Applied Standards

EN 62031
LED modules for general lighting – Safety specifications

EN 62471
Photobiological safety of lamps and lamp systems

Product Guarantee

- 5 years
- The conditions for the Product Guarantee of the Vossloh-Schwabe Group shall apply as published on our homepage (www.vossloh-schwabe.com). We will be happy to send you these conditions upon request.

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